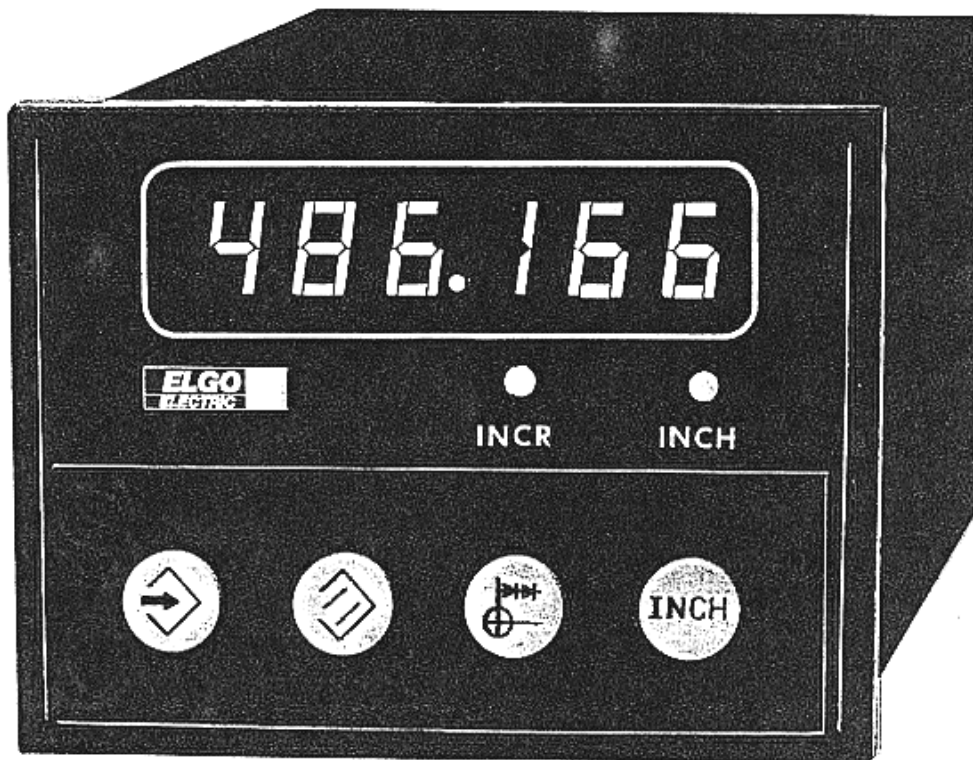


## series 55

POSITION INDICATOR  
-with Microprocessor Control



## POSITION INDICATOR

### SERIES 55

#### Important Features

The fully electronic Series 55 Counter provides 10mm red LED indication. The integrated microprocessor enables the following features to be provided as standard.

#### Switching between Absolute/Incremental dimensions

The importance of this feature can be shown in the following example:

Let us say that the preset position is 1928.7. It is desired to move to a point 325.9mm in the negative direction.

In normal circumstances, the Operator has to calculate the new position (ie 1602.8) and then move to that indicated value.

This is unnecessary if the 55 Counter is employed. The operator presses the button marked "INCR" and the indicator display automatically sets to zero. The operator now moves the machine (in negative direction) the distance 325.9. He can then again press the button "INCR" and the display once more resets to indicate the actual absolute value, ie 1602.8 in this example.

### Selection mm/inch

It is possible to switch from one to the other without redatuming. This is achieved by pressing the button "INCH".

### Other features

- . Entry of desired datum is made by means of front pushbuttons.
- . Entry and memorising of a second datum with immediate access is available.
- . Solid, robust front panel with integrated pushbuttons in compact metal enclosures and integrated power supply.
- . Special software can be provided to solve many applications.

### FUNCTIONS AND OPERATION DESCRIPTION

#### Datuming of Unit

The indicator can be set to any or a fixed datum using 2 pushbuttons.



This button selects the decade to be set.  
The selected decade is identified by means of the flashing decimal point.



This button enables the operator to set the required digital value of the selected decade. The numbers clock upward on each activation.


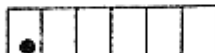
NB:


Both buttons can be inhibited externally via terminal 17. In this way it possible to prevent operator accidentally changing the datum.



A1) Setting to any datum


Example:



The mechanical position is in say a position 12345.6mm.


1. Press   decimal point flashes in 1st decade

2. Press  Until the digit 1 appears in display

3. Press   decimal point flashes in 2nd decade

4. Press  Until the digit 2 appears in display


5. Press   decimal point flashes in 3rd decade

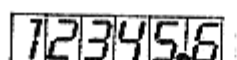
6. Press  Until the digit 3 appears in display

:

: etc


13 until all 6 digits have been set.


Now press  again. the flashing decimal point is extinguished and the correct fixed decimal point appears. The system is now datummed.



## A2) Setting to a fixed Datum Value

Proceed as above up to point 13.

Close contact across terminals 1 and 6 (min 1 sec). This will store the desired value in the memory. Then press  to return to operating mode.

Thereafter, whenever the contact 1 - 6 is closed  the memorised value is displayed.


## B) Reset

The display can be set to zero by activating terminal 7.

## C) Selection of Absolute and Incremental indication

This feature enables the operator to set the display to zero at any position, without losing the actual absolute position, which is internally continuously monitored.

### Incremental


Press button 

LED "INCR" illuminates

Display sets to zero

The machine can now be moved +ve or -ve direction from this pseudozero.

### Absolute

When the LED "INCR" is not illuminated, the indication is in absolute mode. Should the LED "INCR" be illuminated pressing the button , will return the display to absolute dimension.

### Sign Symbol

The counter counts + and - about zero. An LED in extreme left of display illuminates as negative symbol.

#### D) Selection of mm/inch

The system operates in metric resolution mode where 1 pulse equals 0.1mm (or 0.01mm on special request).

The processor is designed to provide indication in metric or imperial dimensions.

It is possible to switch at any time from one mode to the other without the need for resetting datum.

#### Selection of imperial dimensions

Press the button INCH

The LED "INCH" illuminates

The indicator provides display in imperial mode. Standard resolution : 0.001 inch

#### Selection of metric dimensions

Press the button INCH

The LED "INCH" is extinguished

The indicator provides display in metric mode. Standard resolution 0.1 mm

#### E) Input of other correction factors

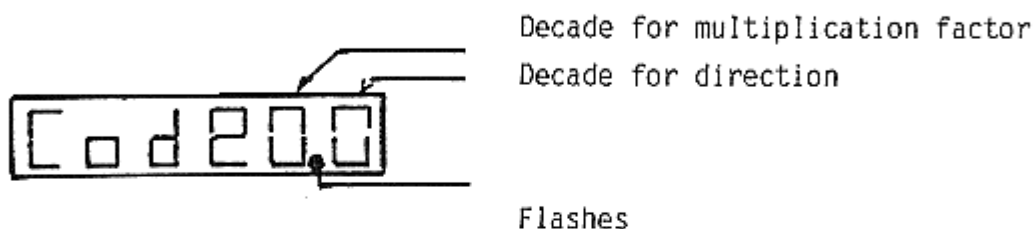
Instead of converting to imperial dimensions, any other multiplication factor can be used. This factor can be provided by alteration of the software according to customer requirements.



F) Encoder pulse multiplication and direction selection

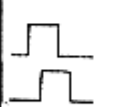

Pulse multiplication of x1, x2 or x4 can be selected by means of the pushbuttons. The counter can also be made unidirectional.

This is only required during commissioning and the feature is protected by a security code. The code number is 250565 and must be set in the same way as the Datum value, as given in section A).

On completion of this entry, the indicator will display



Now the required values can be entered using button  and  according to the following table:

Display			Function
To select multiplication factor			
Code	0	0	x1
Code	2	0	x2
Code	3	0	x4
To select direction of count			
Code	0	1	Up
Code	0	2	Down

### Connections

Connections are by means of screw terminal plug-in block, providing a simple means of installation and service.

<u>Terminal</u>	<u>Symbol</u>	<u>Function</u>
1	0	Zero
2	+12V	Encoder supply
3	A(NPN)	Pulse input
4	B(NPN)	Pulse input
5	NPN	Count inhibit
6	NPN	Set datum
7	NPN	Reset to zero
8 } 9 }	220 v+/-15%	Power input
10-16	not used	
17	NPN	Inhibit setting buttons

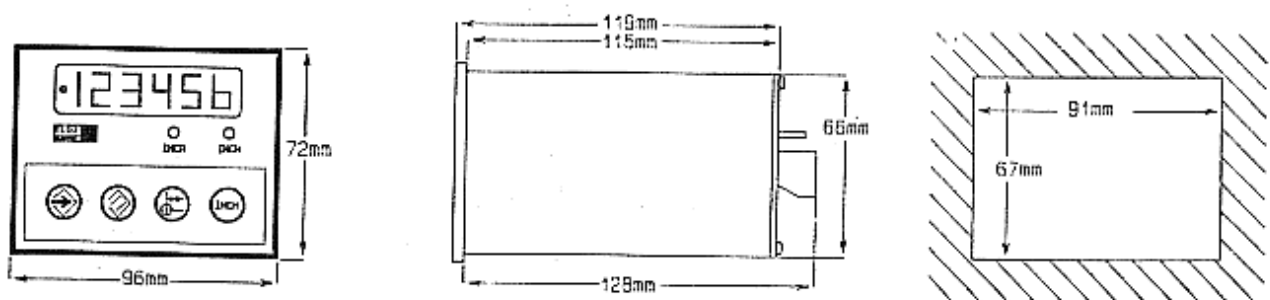
As standard, the inputs 3 to 7 are NPN switching, which are connected to 0V (Pin 1) to activate.

By swapping over the internal opto coupler, PNP switching is possible. In this case the input is activated by connection to +12v (pin 2).

aet

Other power supply voltages are available to order.

### Dimensions





Technical Data

Power input : 220 or 110 v+/-15% 50/60Hz.

Load : 4VA (excluding Encoder)

Operating frequency : 15KHz. Higher on request.

Pulse input : 2 channel 90° el spaced

high : >8.5v

low : <2.5v

Duration : >50  $\mu$  sec

Encoder power supply : 12v, 100mA dc stabilised

Indication : 6 decade red LED 10mm high

Actual position memory : Battery backed on mains switch off.  
Battery life is about 5 years.

Input signals : Potential free pulsed contact (10 Hz max).

Enclosures : Extruded black aluminium

Fixing : Side mounted screws

Input buttons : Robust tactile clearly marked and can be operated with  
gloved hands.

### Hints for integration into electrical panels.

The Series 55 Position indicator is designed and constructed for use in arduous industrial applications and as immune to electrical interference as possible.

Care should however be taken when fitting electronic equipment into machinery.

1. Electronic units should be mounted away from inductive and capacitive interference.
2. Protect against over voltage.
3. Protect against over temperature.
4. Run low voltage cables separate to high voltage/high power cables.
5. Screen encoder cables and input signal cables. Tie screen to zero (terminal 1) at controller ; leave insulated at other end.
6. Suppress all relays, contactors, solenoids, brakes and other coils in cabinet and on machine. Fit diodes across dc coils. Fit 0.1 uF+100 ohms across ac coils.

Failure to follow the above simple instructions could lead to maloperation of the electronic unit.

## Liability exclusion / Guarantee

We have checked the contents of this instruction manual carefully, to the best of our knowledge and belief for conformity with the described hardware and software. Nevertheless errors, mistakes or deviations can not be excluded, therefore we do not guarantee complete conformity. Necessary corrections will be included in the subsequent editions. We appreciate your ideas and improvement suggestions very much.

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**ELGO - Electric - GmbH**  
Measure - Control - Position  
Carl - Benz - Straße 1, D-78239 Rielasingen  
phone.: 0049-7731/93 39 - 0, Fax: 2 88 03  
Internet: [www.elgo.de](http://www.elgo.de), Mail: [info@elgo.de](mailto:info@elgo.de)



For further details visit

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